

AMENDMENT TO THE CLAIMS

Claim 1 (previously presented): A mandrel comprising a top surface, and an outer surface comprising a plurality of ridges and contoured surfaces extending between the ridges corresponding to polymer leaflets, wherein an edge on the mandrel separates the top surface and the contoured surfaces, with the mandrel edge corresponding to the free edge of the leaflets, said mandrel edge having a radius of curvature of no more than about 0.25 millimeters.

Claim 2 (original): The mandrel of claim 1 wherein the mandrel comprises three ridges connected by three scallops to form three contoured surfaces.

Claim 3 (canceled)

Claim 4 (original): The mandrel of claim 1 wherein the mandrel edge has a radius of curvature of no more than about 0.15 millimeters.

Claim 5 (original): The mandrel of claim 1 wherein the angle between the top surface and the contoured surfaces is no larger than about 135 degrees.

Claim 6 (original): The mandrel of claim 1 wherein the angle between the top surface and the contoured surfaces is no larger than about 90 degrees.

Claim 7 (original): The mandrel of claim 1 wherein the top surface of the mandrel is flat.

Claim 8 (original): The mandrel of claim 1 wherein the top surface of the mandrel has flat portions and curved portions.

Claim 9 (original): The mandrel of claim 1 wherein the top surface of the mandrel has flat portions adjacent the edge and a protruding portion away from the edge.

Claim 10 (original): The mandrel of claim 1 wherein the contoured surfaces are on an outside surface of the mandrel.

Claim 11 (original): The mandrel of claim 1 wherein the contoured surfaces are on an interior surface of the mandrel.

Claims 12 - 28 (canceled)

Claim 29 (previously presented): A mandrel comprising an outer surface having a plurality of ridges and contoured surfaces extending between the ridges corresponding to polymer leaflets in a closed configuration, wherein contoured surfaces corresponding to the leaflets meet contoured surfaces of adjacent leaflets at an edge, said edge having a radius of curvature of no more than about 0.25 millimeters.

Claim 30 (previously presented): The mandrel of claim 1 wherein the top surface of the mandrel is convex.

Claim 31 (previously presented): The mandrel of claim 1 wherein the top surface of the mandrel is concave.

Claim 32 (previously presented): The mandrel of claim 1 comprising a groove parallel to the edge of the top surface.

Claim 33 (previously presented): The mandrel of claim 32 wherein

the groove has a depth from about 0.01 millimeter to about 1 millimeter.

Claim 34 (previously presented): The mandrel of claim 1 wherein the mandrel edge has a radius of curvature of no more than about 0.1 millimeter.

Claim 35 (previously presented): The mandrel of claim 1 comprising a polymer on the contoured surfaces.

Claim 36 (cancelled)

Claim 37 (previously presented): The mandrel of claim 29 comprising a polymer on the contoured surfaces.

Claim 38 (currently amended): A mandrel for forming leaflets of valved prostheses, the mandrel comprising:

an end surface; and

a sidewall surface comprising a contoured surface section conformal with a shape of a leaflet, the leaflet having a free edge, the contoured surface section having a curvature which varies and at least a portion of which curves outwardly relative to the mandrel;

wherein the contoured surface section and at least an adjacent region of the end surface have a predetermined wetting property for receiving a polymer composition having a predetermined viscosity; and

wherein the contoured surface section intersects the end surface to form a boundary that corresponds to the free edge of the leaflet, the boundary generally having a radius of curvature ~~to accommodate a thickness of said polymer composition on said contoured surface section and said adjacent region of the end surface~~

~~determined by the wetting property of the contoured surface section and the end surface adjacent region, and by the viscosity of the polymer composition.~~

Claim 39 (previously presented) : The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 135 degree angle and generally with the radius of curvature being no more than about 0.25 mm.

Claim 40 (previously presented) : The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 90 degree angle and generally with the radius of curvature being no more than about 0.1 mm.

Claim 41 (previously presented) : The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 135 degree angle.

Claim 42 (previously presented) : The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 105 degree angle.

Claim 43 (previously presented) : The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 90 degree angle.

Claim 44 (previously presented) : The mandrel of claim 38 wherein the radius of curvature is no more than about 0.25 mm.

Claim 45 (previously presented) : The mandrel of claim 38 wherein the radius of curvature is no more than about 0.15 mm.

Claim 46 (previously presented) : The mandrel of claim 38 wherein

the radius of curvature is no more than about 0.1 mm.

Claim 47 (previously presented) : The mandrel of claim 38 wherein the mandrel is a male mandrel.

Claim 48 (previously presented) : The mandrel of claim 38 wherein the mandrel is a female mandrel.

Claim 49 (previously presented) : The mandrel of claim 38 wherein the contoured surface section comprises a groove parallel to the boundary.

Claim 50 (previously presented) : The mandrel of claim 38 wherein:

the sidewall surface further comprises an additional surface section conformal with the shape of the leaflet in a relaxed state;

the additional contoured surface section has the predetermined wetting property; and

the additional contoured surface section intersects the end surface to form an additional boundary that corresponds to the free edge of the leaflet, the additional boundary generally having a radius of curvature comparable to the predetermined polymer coating thickness.

Claim 51 (new) : The mandrel of claim 38 wherein the contoured surface section includes at least a portion which curves inwardly relative to the mandrel.